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SEMICONDUCTOR STRUCTURE ON INSULATOR AND ITS MANUFACTURING METHOD

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Abstract

PURPOSE: To manufacture a substrate with no substantial dislocation at all by compensating strain by a method wherein, when an epitaxial layer is grown so as to bury a specific number of insulators as the substrates for LSI, the epitaxial layer is grown through the intermediary of a transposition compensating layer previously provided on the substrate.
CONSTITUTION: An each stopper alder 12 made of P<++> type Si lessening the transposition by doping with Ge is epitaxially grown on an N type or P type Si substrate 11 having 100 orientation so as to deposit an N type Si layer 13 on the layer 12 further to provide an N<++> type buried layer 14 if necessary. Next, a polycrystalline Si layer 16 is deposited on the buried layer 14 through the intermediary of an electric insulating layer 15 for thinning the substrate 1 side in the thickness of 2-4 mill by mechanical or ion grinding process. Successively, the remaining substrate 11 and the layer 12 positioned below the substrate 11 are etched away using a chemical so that a specific number of apertures may be bored in the exposed layer 13 to be filled up with insulators 30 such as SiC, SiO2 , etc., for the formation of a high quality substrate for LSI.